Quarterly Economic Forecast Update

Expansion To Slow in 1988-1989

The turbulent economic events of the autumn months have induced levels of uncertainty not seen since the recession years of the early 1980s. While the national and state economies are not expected to descend into recession during the next several months, doubts about the viability of continued business expansion through 1988 are mounting.

The Economic Outlook Center (EOC) still expects the economy to grow modestly through the end of next year. However, the onset of a recession in 1989 or sooner is now not only possible but probable. Its timing and severity are difficult to predict in light of the complex interplay of global economic forces.

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THE NATIONAL ECONOMY

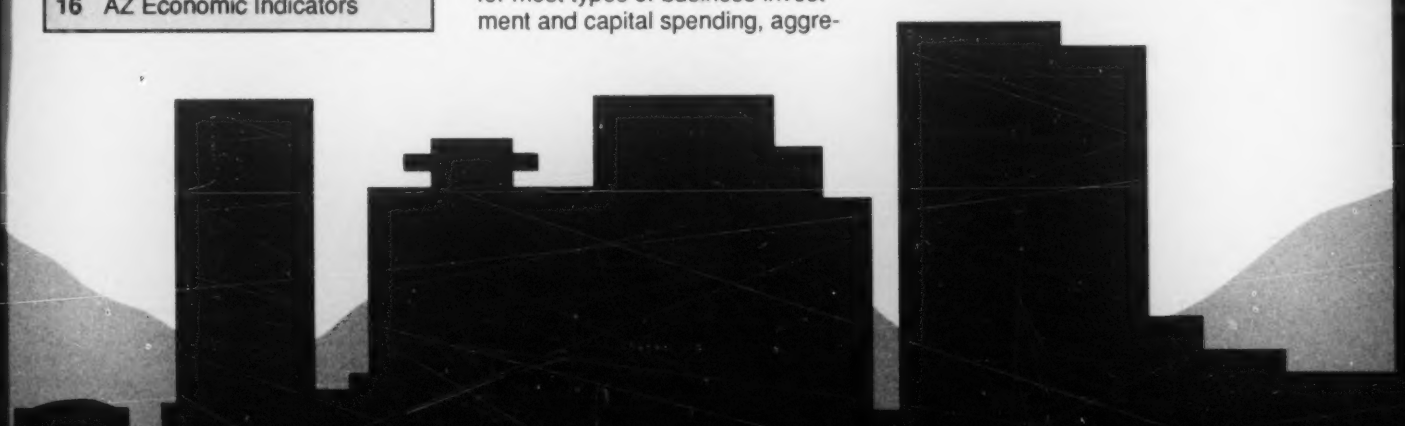
In the wake of the October plunge of world financial markets, distracted analysts might easily overlook fundamental statistical evidence of economic growth. Indeed, the recent record has been impressive. Employment continues to climb, industrial production is expanding, and the trade deficit finally is showing signs of improvement. Real economic growth in the United States through third quarter 1987 exceeded the expectations of most forecasters.

Recent developments indicate that the national economy will grow more slowly during the next few quarters. Major U.S. automobile manufacturers, active participants in the expansion of industrial production, are watching inventories of unsold vehicles rise to uncomfortable levels. Since a surge in automobile purchases is unlikely in the near future, production cutbacks seem inevitable. With the uncertain outlook for most types of business investment and capital spending, aggregate industrial production in the United States will not approach the 8.7 percent annual growth rate of third quarter 1987.

Reduced expectations for the 1988 economy also result from the outlook for consumption expenditures. Economists expressed much concern about consumer spending even before the stock market crashed in October. Since then, projections of future spending flows have become increasingly dire for a variety of reasons.

The ballyhooed "wealth effect" on consumers has been overemphasized. Although the bull market helped to create a generally benign climate for spending and investment, consumption was fueled more by the robust advance of real personal income and loose credit policies than by swollen stock portfolios. Conversely, the sharp reduction in common stock equity should not by itself precipitate a plunge in consumer outlays.

See "Forecast," page 2



ARIZONA BUSINESS

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sumption, regardless of financial market fluctuations. Installment debt has climbed to historically high levels throughout the current expansion, while the national savings rate has been very low. Real personal income growth has remained modest for much of 1987, and inflation, still low compared with late-1970 levels, has accelerated.

Cyclical factors also will affect consumers in the months ahead. Americans have purchased millions of new homes and cars during the last few years, and this, combined with the prospect of federal spending cuts and/or tax increases, will reduce disposable income during 1988 and 1989.

Compounded by the negative psychological impact of the crisis on Wall Street, these factors point toward a somewhat bleak picture for consumer spending in 1988 and 1989.

1988 and 1989 ECONOMIC FORECASTS: UNITED STATES

	Actual 1986	Projected 1987	Forecast 1988	Forecast 1989
Gross National Product				
Millions of 1982 Dollars	3,713	3,811	3,896	3,981
Percent Change	-2.9	2.6	2.2	2.2
Industrial Production				
Percent Change	1.0	3.5	3.0	2.3
Housing Starts				
Number in Millions	1.82	1.66	1.58	1.47
Percent Change	4.4	-8.8	-4.8	-7.0
Unemployment Rate				
Percent	7.0	6.2	6.1	6.2
Consumer Price Index				
Percent Change	1.9	3.7	4.2	4.8
Three-Month Treasury Bill Rate				
Percent Change	6.0	5.8	6.6	7.6

Source: Economic Outlook Center, College of Business, Arizona State University

THE U.S. OUTLOOK

The EOC's forecast for the U.S. economy is summarized in Table 1. The forecast portrays an economy that will advance at a sluggish pace during the next two years. Real GNP growth is expected to average 2.2 percent through 1989, with much of the growth driven by improved manufacturing performance and export activity. Offsetting factors will include slower consumer spending and lower levels of business investment, housing construction and government purchases.

A key contingency is foreign demand for U.S. exports and financial assets. Should our trading partners fail to respond to the lower prices for U.S. goods that result from the dollar's decline, U.S. production, profits and income will suffer. If the dollar falls so much that interest rates soar and inflation surges, a recession could begin earlier than anticipated. Currently, the forecast projects a national inflation rate of 4.2 percent for 1988 and 4.8 percent for 1989. Long and short-term interest rates are expected to rise gradually through the forecast period.

1988-1989 ARIZONA FORECAST

Reduced expectations for the national economy translate into slower growth for Arizona. The EOC's forecasts for Arizona and Maricopa County are summarized in Tables 2 and 3. Statistical evidence on employment, personal income, retail sales and construction clearly indicates that the state economy struggled (relative to 1983-1986, at least) in 1987. Nearly every sector performed below the expectations of analysts, in spite of the generally favorable record compiled by the national economy. The Arizona outlook for the next two years parallels that of the nation: slower growth, with a gradually greater probability of recession as 1989 approaches.

Personal Income

Personal income in Arizona is projected to grow 7.5 percent in 1988 and 6.6 percent in 1989, comparable to the 6.8 percent increase expected for 1987. Preliminary estimates for the first half of 1987 show an increase of just 5.9 percent over the first half of 1986. This pattern of growth departs markedly from gains of the last few years that consistently exceeded 9 percent.

Several factors explain why income growth is waning. While job creation is slowing, some well-paying sectors - construction, financial services and manufacturing - are performing poorly compared to the previous three years. Adjustments to wages and salaries that are based in part on inflation measures have been suppressed to some extent by the small increases in consumer prices recorded during 1986. Evidence is accumulating that population growth, an important source of income gains in prior years, has already decelerated and will continue to do so next year. Finally, while inflation may be slightly higher in 1988 and 1989 than it was in 1986 and 1987, the advance will not be enough to produce a substantial increase in nominal income growth.

These and, for that matter, any projections of personal income for the 1987-1989 period should be carefully evaluated. Recent experience has shown that the Bureau of Economic Analysis, source of the personal income data, has a tendency to make very large revisions. With so many financial assets having been sold in 1987, the non-wage components of personal income growth are particularly volatile; the direction, let alone the magnitude, of subsequent revisions is difficult to assess.

Retail Sales

Arizona retail sales have been disappointing during the last two years. Although sales increased 9.7 percent in 1985, they advanced only 6.3 percent in 1986 and are projected to rise just 6 percent when all the totals for 1987 are in. Anemic retail activity partially explains the slump in state revenue collections that has forced mid-year budget cuts in fiscal 1986-87 and 1987-88.

Reduced migration to the state, moderate inflation, and smaller employment and wage gains are responsible for the recent weakness in consumer spending in Arizona. Higher inflation and a slight improvement in the rate of job creation should push Arizona retail sales up 6.5 percent in 1988; by 1989, a weakening economy will result in a slower rate of increase. Figure I illustrates how population growth and price increases have combined to inflate retail sales totals in recent years and depicts the outlook for

through 1989.

Inflation

As measured by the Metropolitan Phoenix CPI and the U.S. CPI, inflation averaged about 4 percent both locally and nationally for most of 1987. This rate is forecast to rise moderately, in line with higher costs for electricity, insurance, medical care and imported goods (particularly apparel and motor vehicles). Most of these items have registered relatively modest price increases in the recent past, but they are projected to command higher prices during the next 18 months. The effects of electricity rate increases should be apparent in the Phoenix area by this summer, while rising import prices already are having an effect.

Oil prices are not expected to have a major impact on the inflation rate in the near future. Global crude oil supplies far exceed current refinery demand, resulting in flat or falling prices in most markets. It does not look as if OPEC will be able to effectively enforce fixed prices or production quotas; however, it is also unlikely that American consumers will enjoy substantially lower fuel prices during the forecast period. Arizona, a state that relies primarily on the California-Alaska-Pacific Rim producers, is not directly affected by actions of the Middle East-Europe-Gulf Coast market suppliers. As a result, consumers in the state should benefit from stable fuel prices.

Employment

Figure II shows the projected pattern of employment growth for selected industries in Arizona. Preliminary estimates indicate that 1987 was the state's weakest year for job creation since the 1981-1982 recession. In fact, with estimates in the neighborhood of 2 percent, the Economic Outlook Center anticipates revisions to bring the 1987 annual growth rate up to 3 percent.

The recent weakness in employment stems from a steep decline in construction activity in the state, suspension of the rapid growth of aircraft and aerospace manufacturers, and problems experienced by the financial services industry.

Construction employment has been sliding steadily since summer 1986 and will continue to fall before leveling off in 1988. This weakness, combined with unstable industry conditions, has cooled the finance, insurance and real estate (FIRE) industry to the point where job growth is virtually flat. Federal budget cuts appear to be affecting hiring by the state's defense contractors even sooner than expected, resulting in few opportunities in an industry that had been a vital contributor to the 1983-1986 boom.

The EOC expects employment growth in Arizona to average 3.4 percent in 1988 and 2.7 percent in 1989. However, should the construction industry continue to weaken, even these modest growth rates may prove difficult to attain.

Construction

In spite of sharp reductions in home building during 1987, activity

1988 AND 1989 ECONOMIC FORECASTS: ARIZONA

	Actual 1986	Projected 1987	Forecast 1988	Forecast 1989
Gross State Product				
Millions of 1982 Dollars	46,012	48,130	50,545	52,765
Percent Change	6.9	4.6	5.0	4.4
Personal Income				
Millions of Current Dollars	44,719	47,764	51,341	54,724
Percent Change	9.3	6.8	7.5	6.6
Retail Sales				
Millions of Current Dollars	17,187	18,221	19,410	20,581
Percent Change	6.3	6.0	6.5	6.0
Unemployment Rate				
Percent	6.9	7.0	7.0	7.2
Wage and Salary Employment				
Number in Thousands	1,341.4	1,381.0	1,428.3	1467.0
Percent Change	4.9	3.0	3.4	2.7
Population				
Number in Thousands	3,332	3,440	3,532	3,618
Percent Change	4.1	3.2	2.7	2.4
Single Family Units Permitted				
Number	34,079	28,560	28,490	27,755
Percent Change	2.4	-16.2	-0.2	-2.6
Multifamily Units Permitted[1]				
Number	27,008	10,100	10,230	9,880
Percent Change	-27.2	-62.6	1.3	-3.4

[1]Apartment complexes of three or more units

TABLE 3
1988 AND 1989 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual 1986	Projected 1987	Forecast 1988	Forecast 1989
Consumer Price Index				
Percent Change	1.3	4.3	5.2	5.5
Retail Sales				
Millions of Current Dollars	11,342	12,004	12,789	13,566
Percent Change	4.7	5.9	6.5	6.1
Unemployment Rate				
Percent	5.6	5.8	5.9	6.3
Wage and Salary Employment				
Number in Thousands	883.5	910.5	943.4	971.6
Percent Change	4.9	3.1	3.6	3.0
Population				
Number in Thousands	1,902	1,970	2,026	2,079
Percent Change	4.9	3.6	2.8	2.6
Single Family Units Permitted				
Number	23,851	19,320	19,300	18,810
Percent Change	3.1	-19.0	-0.1	-2.5
Multifamily Units Permitted[1]				
Number	18,311	7,220	7,240	7,050
Percent Change	-32.9	-60.6	0.3	-2.6

[1]Apartment complexes of three or more units

Source (Tables 2 and 3): Economic Outlook Center in the College of Business, Arizona State University

compared to most other parts of the country. Office and commercial vacancy rates remain high, and new building is very slow, mirroring conditions in many other metropolitan areas.

Arizona, and metropolitan Phoenix in particular, are fortunate to be well diversified, although they are especially dependent on the construction and development component of their economic bases. Consequently, Arizona's economy was unusually sluggish in 1987 and will continue to be lethargic for the next two years. Fortunately, the diverse composition of construction will help Arizona to keep moving forward, but the boom will not return without a surge in new construction activity.

RISKS TO THE OUTLOOK

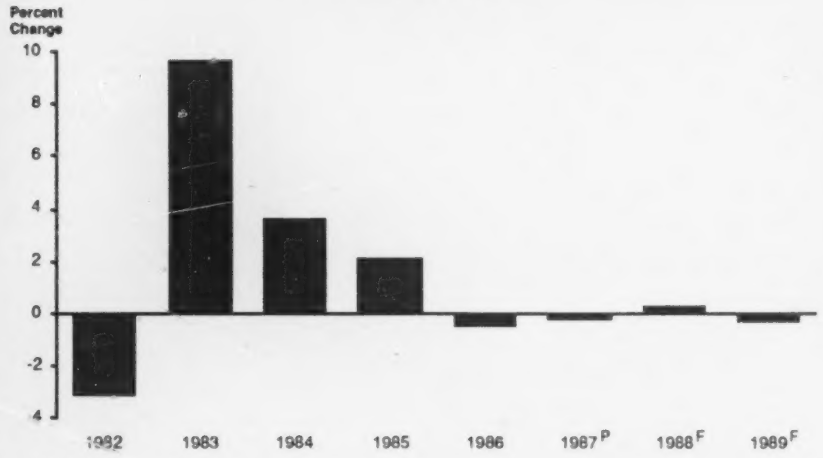
Interest rates and possible financial instability represent the major risks to the outlook. The forecast assumes a gradual, orderly rise in interest rates through 1989. If a dive in the exchange value of the dollar induces a jump in interest rates, construction activity and the financial industry will suffer sufficiently to early as 1988.

Part of the recipe for financial stability includes significant reductions in the trade and federal budget deficits. The falling dollar has helped to make the prices of American manufactured goods more competitive on world markets; it remains to be seen whether foreign demand will be sufficiently strong to provide the needed boost to U.S. exports. If not, the recovery of the economy's industrial sector may be aborted prematurely, and Arizona's electronic industry may not rebound as hoped.

Arizona has little to gain from negotiations on the federal budget. Like most Western states, Arizona has benefited from federal largess in the form of military bases, water projects, agricultural price supports and defense-related manufacturing. How cuts in federal spending could help the state is hard to envision. Lowering the deficit may come at the expense of those regions that traditionally have received more than they have contributed to the federal government.

Regardless, should the budget deficit deteriorate rather than improve, interest rates could be driven upward to a point at which Arizona's construction-sensitive economy would be adversely affected.

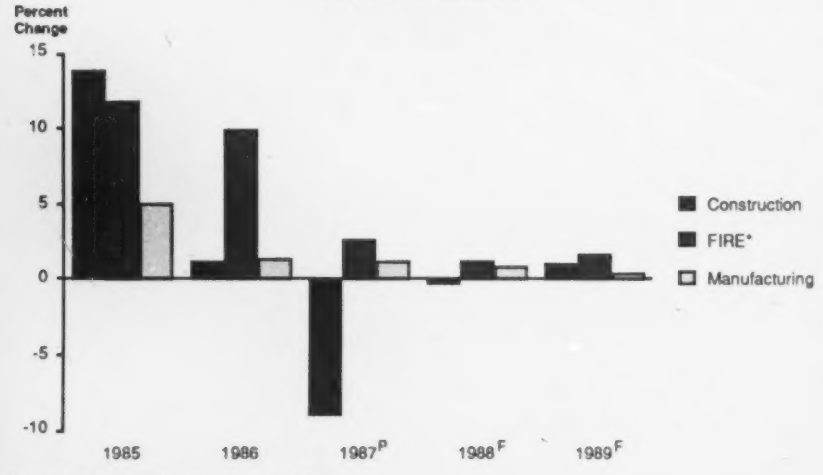
FIGURE I
ARIZONA REAL PER CAPITA RETAIL SALES, 1982-89
Adjusted for Inflation



P = Projected; F = Forecast

Source: Economic Outlook Center in the College of Business, Arizona State University

FIGURE II
ARIZONA EMPLOYMENT GROWTH, 1985-89
Selected Industries



*Finance, Insurance, and Real Estate
P = Projected; F = Forecast

Source: Arizona Department of Economic Security; and the Economic Outlook Center in the College of Business, Arizona State University.

SUMMARY

Arizona has not set any economic records lately, but the economy is in reasonably good shape, considering the plight of the construction industry. The state is fortunate that economic growth has managed to proceed without key industries such as construction, finance, electronics and aerospace taking the lead. These forecasts fall well short of predicting a recession, but the probability of a downturn looms larger than it has for several years.

The Arizona Index of Leading Economic Indicators points to continuing expansion of the state economy well into 1988, a testimony to its remarkable resilience. Beyond the next several months, however, the questions multiply, while the answers dwindle in number. The Arizona economy will continue to grow at a relatively slow pace, perhaps through 1990; vigorous growth is unlikely, and doubts about the duration of the expansion persist.

– **Brian Cary,** *Economist*
Economic Outlook Center

Entrepreneurs started fewer new businesses during first half 1987 than during first half 1986 in the metropolitan Phoenix area. The quarterly Metro Phoenix New Business Index was 96 for the first quarter of 1987 (1986 = 100) and 94 for the second quarter (see Figure I).

The index measures new business start-ups, excluding franchises, branches, and relocations. Data are obtained through a cooperative agreement between the *Arizona New Business Review* and the Center for Business Research.

During first half 1987, 1,891 new businesses opened, compared to 2,000 during the same period of 1986. Start-ups were down in March, April and June (see Figure II).

BY INDUSTRY

Entrepreneurs in manufacturing businesses bucked the overall trend as the number of start-ups rose 70 percent, to 109 in first half 1987 from 64 for the same period of 1986 (see Figure III). The greatest decline – 27 percent – occurred in the trade sector's rate of start-ups, to only 509 firms during first half 1987, from 693 firms in first half 1986.

LOCATION

The locational pattern of new businesses in the Valley during the first halves of 1986 and 1987 shows that Glendale surpassed other areas in start-ups during January and June, but sagged most sharply in April (Figure IV). The metropolitan area experienced a flat growth period during February, which was not felt by the East Valley, where start-ups increased 18 percent.

NEW INDICATOR

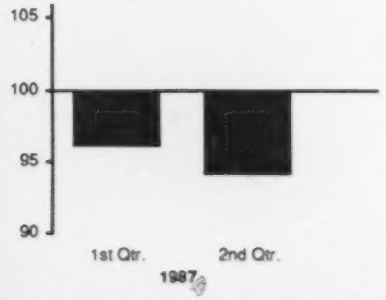
Because new businesses are an important source of jobs for the Phoenix area, tracking start-ups provides a useful indicator of the pace of economic activity. The slower growth reported for first half 1987 is consistent with other indicators, such as wage and salary employment growth. The increase in manufacturing start-ups offers the brightest news; this sector has been troubled since the 1982 recession.

Data for second half 1987 will be reported upon its compilation.

– Lee McPheters
– Yolanda Strozier

Dr. McPheters is Professor of Economics and Director of the Economic Outlook Center. Ms. Strozier is a senior Economics major.

FIGURE I
METROPOLITAN PHOENIX NEW BUSINESS INDEX
(1986 = 100)



Source: Arizona New Business Review; and the Center for Business Research in the College of Business, Arizona State University.

FIGURE II
METROPOLITAN PHOENIX NEW BUSINESS START-UPS
By Month: 1986 vs. 1987

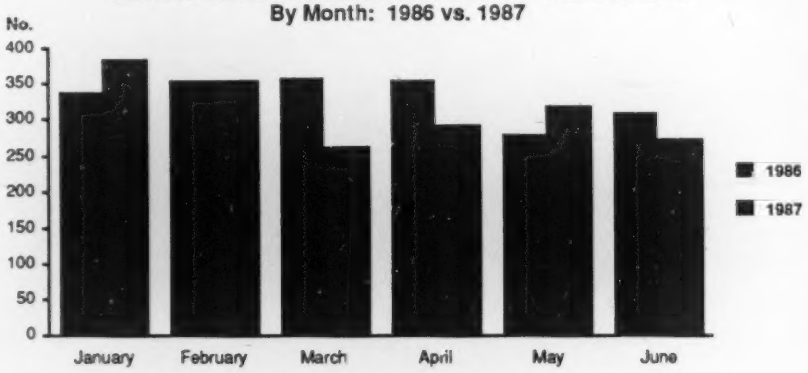
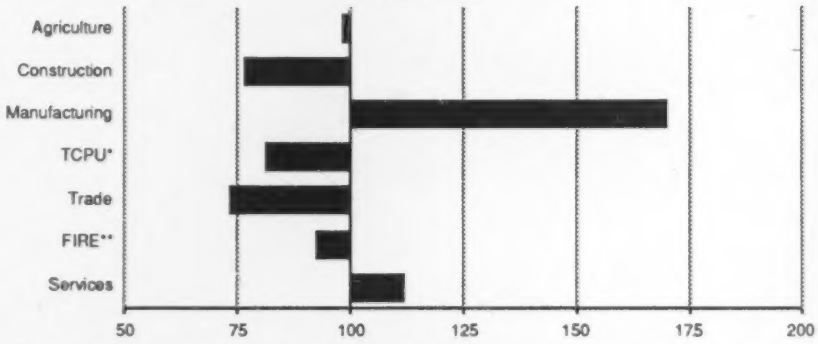
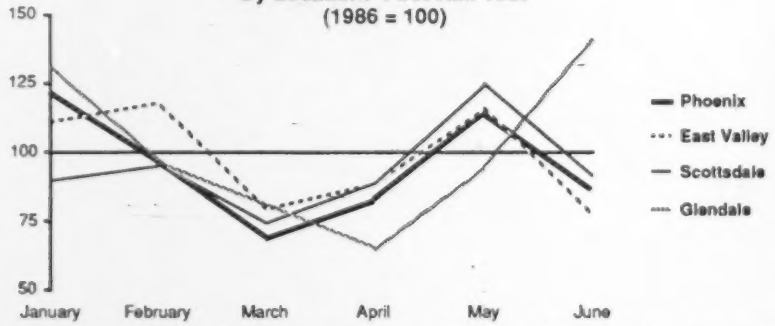


FIGURE III
METRO PHOENIX NEW BUSINESS INDEX
By Industry: First Half 1987
(1986 = 100)



*Transportation, communications and public utilities. **Finance, insurance and real estate

FIGURE IV
METROPOLITAN PHOENIX NEW BUSINESS INDEX
By Location: First Half 1987
(1986 = 100)



Source (Figures II, III and IV): Arizona New Business Review; and the Center for Business Research in the College of Business, Arizona State University.

With $1.4 billion in new projects during the third quarter, the Arizona construction industry is well on its way to another good year, much like 1986. During the first three quarters, a total of $4 billion was permitted, compared to $4.3 billion for the same period of 1986. Unlike 1986, 1987 activity has been driven by the development of several major projects, especially in Maricopa County. For the first three quarters of 1987, a total of 72,098 permits were issued, much less than the 82,868 permits recorded for that period of 1986.

TABLE 1
REPORTING UNITS WITH GREATEST TOTAL VALUE OF BUILDING PERMITS
Third Quarter, 1987

Reporting Unit	Value (in millions)
Phoenix	$342.7
Scottsdale	297.9
Mesa	118.3
Tucson	77.1
Unincorporated Maricopa County	70.4
Unincorporated Pima County	70.0
Tempe	66.9
Chandler	58.5
Glendale	46.3
Gilbert	40.9
Peoria	35.2
Unincorporated Yavapai County	24.2

Source: Center for Business Research, College of Business, Arizona State University

The 12 leading reporting areas, shown in Table 1, accounted for $1.2 billion or 88 percent of the reported third quarter 1987 activity. The impact of major projects is evident in the first two cities, Phoenix and Scottsdale.

At $1.1 billion (more than 75 percent of the state total), construction activity in Maricopa County remained virtually unchanged from the second quarter level ($1.1 billion). Development activity in Pima County increased to $154.7 million – 11 percent of total activity – from $151.4 million in the second quarter. With 3 percent of the total activity, Yavapai County was the next most active area, recording $44.8 million in new projects.

SECTORAL ACTIVITY

Residential

In response to increasing interest rates, the single family sector continued to decline in Maricopa County, to 4,427 permits, from 5,217 permits in the second quarter and 6,093 permits one year earlier. Through the first three quarters of 1987, only 14,886 homes were authorized, while 19,715 single family permits were recorded for the same period of 1986. While most cities reported declines in comparison to third quarter 1986, the cities of Gilbert (325 from 261 permits) and Scottsdale (506 from 495 permits) showed increases.

The single family sector in Pima County also declined slightly, to 1,093 permits in the third quarter, from 1,147 permits in the second quarter and 1,135 permits one year earlier. Through third quarter 1987, a total of 3,372 homes were authorized, while 3,764 homes were permitted for that period of 1986. With 75 percent of the permitted homes, unincorporated Pima County continued to be the leading area of new home development.

Although the 1,355 residential permits issued for the rest of Arizona surpassed the third quarter 1986 total (1,337 permits), the number was down from the 1,484 permits recorded during the second quarter. Primary areas of new home development were unincorporated Coconino County (114 permits), Lake Havasu City (152 permits), Prescott (94 permits), and unincorporated Yavapai County (252 permits).

Commercial

With 3,324 authorized units, the apartment sector in Maricopa County improved significantly over the 1,264 units of the second quarter but was well below the 4,324 units of third quarter 1986. Even with greater third quarter activity, the 1987 year-to-date of 6,366 units was

TABLE 2
KEY SECTOR CONSTRUCTION ACTIVITY
(Third Quarter 1987, Second Quarter 1987, and Third Quarter 1986)

	SINGLE FAMILY		COMMERCIAL						INDUSTRIAL	
			APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]			
	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)	Number of Permits	Dollar Value (000)
Maricopa County										
Third Quarter 1987	4,472	426,644	212	156,413	108	115,488	191	78,091	59	41,281
Second Quarter 1987	5,217	434,060	64	50,191	90	165,161	183	63,579	72	45,474
Third Quarter 1986	6,093	464,715	222	123,287	63	41,718	286	84,856	79	32,531
Pima County										
Third Quarter 1987	1,093	74,082	27	10,107	11	9,308	28	11,090	6	728
Second Quarter 1987	1,147	70,716	13	8,058	13	4,105	23	15,244	14	2,778
Third Quarter 1986	1,135	74,234	41	30,511	22	4,403	36	14,699	4	349
Rest of Arizona										
Third Quarter 1987	1,355	85,350	10	4,726	23	3,328	54	9,864	16	3,479
Second Quarter 1987	1,484	93,903	11	3,287	33	4,436	61	10,065	18	1,765
Third Quarter 1986	1,337	79,676	44	15,294	41	7,121	85	16,135	27	3,036
Arizona Total										
Third Quarter 1987	6,920	586,076	249	171,246	142	128,124	273	99,045	81	45,488
Second Quarter 1987	7,848	598,679	88	61,536	136	173,702	267	88,888	104	50,017
Third Quarter 1986	8,565	618,624	307	169,093	126	53,243	407	115,690	110	35,917

[a] Five or more housing units
[b] Office, bank, medical and professional buildings
[c] Shopping centers and other mercantile buildings

Source: Center for Business Research, College of Business, Arizona State University

units permitted during the first three quarters of 1986. Primary areas of third quarter apartment activity were Scottsdale (1,213 units), Phoenix (1,016 units), and Mesa (533 units). Pima County recorded 490 units, all in Tucson. Comparing year-to-date totals, Pima County authorized 1,550 units in 1987, in contrast to 3,992 units for 1986. Leading areas for the rest of Arizona in the third quarter were Prescott (72 units), Kingman City (40 units) and Cottonwood (31 units).

In Maricopa County, the retail sector reversed its quarterly pattern of decline, with 191 permits ($78 million), but is still not near the 286 permits ($85 million) recorded during third quarter 1986. The cities of Phoenix (40 permits, worth $36 million) and Scottsdale (17 permits, valued at $21 million), were the leading areas of new retail development. Retail development in Pima County followed a similar pattern, with most of the permits issued in Tucson (10 permits, worth $9 million). With 54 permits ($9.9 million), retail development continued to decrease throughout the rest of Arizona.

Hotel/motel development activity declined significantly, to only 19 permits ($5.7 million) from 25 permits ($52 million). The city of Phoenix accounted for 17 permits, valued at $4 million, followed by Casa Grande with one permit at $1.7 million.

Office building permits issued in Maricopa County increased from the second quarter total (108 from 90 permits). Although the dollar value declined ($115 from $165 million), it remained well above the $42 million value of 63 permits issued one year earlier. Phoenix led all cities, with 40 permits ($83 million); however, only two permits accounted for $59 million of the total. Scottsdale was next, with eight permits ($21 million), but one permit represented $15 million of the total activity. Pima County recorded a strong increase in office building activity, jumping to $9.3 million (11 permits) from $4 million (13 permits) in the second quarter. Tucson issued 10 permits, valued at $9 million.

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
Third Quarter 1987

	One Family	Mobile Homes	Duplex	3-4 Family	5 or More	Total
APACHE COUNTY	18	34	0	0	0	52
Percent Change, Previous Year	-44	42	—	—	—	-7
Percent Change, Previous Qtr.	-56	-3	—	—	—	-32
COCHISE COUNTY	141	14	2	0	0	157
Percent Change, Previous Year	38	-86	0	—	—	-30
Percent Change, Previous Qtr.	3	-90	—	—	—	-44
COCONINO COUNTY	131	89	0	0	0	220
Percent Change, Previous Year	-40	-29	—	—	—	-43
Percent Change, Previous Qtr.	-31	-6	—	—	—	-24
GILA COUNTY	74	57	0	0	0	131
Percent Change, Previous Year	-10	-14	—	—	—	-11
Percent Change, Previous Qtr.	7	-12	—	—	—	-6
GRAHAM COUNTY	9	54	0	0	0	63
Percent Change, Previous Year	29	2	—	—	—	5
Percent Change, Previous Qtr.	-40	17	—	—	—	3
GREENLEE COUNTY	0	0	0	0	0	0
Percent Change, Previous Year	—	—	—	—	—	—
Percent Change, Previous Qtr.	—	—	—	—	—	—
LA PAZ COUNTY	3	18	0	0	0	21
Percent Change, Previous Year	—	—	—	—	—	—
Percent Change, Previous Qtr.	200	6	—	—	—	17
MARICOPA COUNTY	4,472	280	26	49	3,324	8,151
Percent Change, Previous Year	-27	-15	-73	-75	-23	-26
Percent Change, Previous Qtr.	-14	-21	333	17	163	18
MOHAVE COUNTY	305	222	8	4	60	599
Percent Change, Previous Year	30	-6	300	—	-76	-17
Percent Change, Previous Qtr.	2	12	—	0	-49	-3
NAVAJO COUNTY	88	28	0	0	0	116
Percent Change, Previous Year	-31	0	—	—	—	-36
Percent Change, Previous Qtr.	-34	-22	—	—	—	-33
PIMA COUNTY	1,093	99	8	7	490	1,697
Percent Change, Previous Year	-4	-61	-73	-50	-65	-40
Percent Change, Previous Qtr.	-5	161	-64	-42	106	18
PINAL COUNTY	76	111	0	8	18	213
Percent Change, Previous Year	-30	-52	—	33	—	-40
Percent Change, Previous Qtr.	-14	-13	—	—	—	-1
SANTA CRUZ COUNTY	34	0	2	4	6	46
Percent Change, Previous Year	0	—	—	—	—	28
Percent Change, Previous Qtr.	-75	—	—	—	—	-67
YAVAPAI COUNTY	404	137	8	10	103	662
Percent Change, Previous Year	-4	29	0	-67	-31	-7
Percent Change, Previous Qtr.	5	18	300	-89	544	9
YUMA COUNTY	72	94	0	6	0	172
Percent Change, Previous Year	11	4	—	—	—	-52
Percent Change, Previous Qtr.	38	96	—	—	—	72
TOTAL, ARIZONA	6,920	1,237	54	88	4,001	12,300
Percent Change, Previous Year	-20	-25	-65	-65	-38	-28
Percent Change, Previous Qtr.	-13	-6	59	-44	144	11

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Industrial

Industrial development activity in Maricopa County continued to be very stable, with 59 permits ($41 million) issued during the third quarter. The year-to-date total of $117 million is comparable to the dollar value for the same period of 1986, at $120 million. Industrial activity was especially evident in Phoenix (31 permits; $25 million), Chandler (6 permits; $8 million), and Mesa (8 permits; $3 million).

Industrial development in Pima County was under $1 million, well below the second quarter total of $3 million. In contrast, industrial activity increased throughout the rest of Arizona, to $3.5 million (16 permits) from $1.7 million (18 permits). Although the amount of activity improved, no reporting unit issued a permit in excess of $1 million.

Other

Construction of educational facilities continued to lead this diverse sector, with third quarter projects valued at $51 million, more than the $43 million recorded during the second quarter but less than the $56 million reported one year earlier. Construction permits for health care facilities increased to $30 million in value from $12 million, largely due to Scottsdale issuing one permit for $28 million.

LOOKING AHEAD

The fundamental concern for the future is uncertainty related to volatility in the stock market, interest rates and other key economic factors. When no reasonable trend is discernible, considerable concern about the future develops. Hence, businesses and individuals alike tend to be more cautious about making major decisions such as moving into new space or buying a new home.

Due to this underlying concern, real estate development activity for 1988 is not expected to improve. Since the long-term outlook for Arizona is very promising, developers

These projects will not open for several years yet, when the market is expected to be better. Such a pattern means that the market is driven not by current market forces but by expected market conditions.

Since most major projects are retail and office building developments, residential activity will not improve unless economic conditions improve – primarily interest rates and consumer confidence. Innovative financing arrangements can lower the effective interest rate, but only better economic conditions will strengthen consumers' confidence and increase their desire to buy a new home. Even though Arizona has great growth potential, the extent to which major projects can

Thus, the level of activity could be up-and-down during the next year.

The fundamental factors that will affect all aspects of the construction industry are the performance of the Arizona economy and the future economic outlook. These factors will be especially important to activity in the Phoenix metropolitan area. While many have come to expect the economy to continue performing at the superlative level of the last few years, reality calls for the economy to grow at a much slower pace. With this expected sluggishness, nothing would greatly stimulate construction activity in the near-term.

The 1987 pace continues to vary little from that of 1986. Thus, 1987 should end as a good year, definitely

industry. No strong forces are evident that would propel the industry to new levels in 1988. The impact of the tremendous stock market decline can not be discerned at this time. Hence, great uncertainty continues to buffet the industry and the real estate market. Expectations continue that construction activity will be slow and uneven as developers carefully analyze current and, especially, future strengths and weaknesses of the market.

– Jay Q. Butler

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TABLE 4
ARIZONA BUILDING PERMITS
Third Quarter 1987

	Residential*		Commercial		Industrial		Other		Total	
	Number of Permits	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*	*Number of Permits*	*Dollar Value (000)*
APACHE COUNTY	77	1,991	5	109	1	79	8	279	86	2,458
Percent Change, Previous Year	10	8	150	1,717	—	—	-45	-78	7	-22
Percent Change, Previous Qtr.	-21	-38	25	-49	—	—	-25	336	-19	-29
COCHISE COUNTY	343	8,621	23	1,270	0	0	192	544	558	10,435
Percent Change, Previous Year	-10	3	156	-84	—	—	9	-87	-2	-36
Percent Change, Previous Qtr.	-27	-17	10	-17	—	—	-31	-17	-27	-17
COCONINO COUNTY	444	11,818	23	1,081	2	636	137	4,381	606	17,716
Percent Change, Previous Year	-28	-35	-12	-83	-50	25	-4	26	-23	-37
Percent Change, Previous Qtr.	-8	-30	-51	-47	0	21	1	705	-9	-10
GILA COUNTY	259	6,335	19	613	0	0	44	531	322	7,379
Percent Change, Previous Year	-17	5	73	-1	—	—	-6	-70	-13	-12
Percent Change, Previous Qtr.	2	8	12	-9	—	—	-38	-86	-6	-27
GRAHAM COUNTY	114	1,646	10	4,455	1	10	17	25	142	6,136
Percent Change, Previous Year	10	19	-9	1,127	—	—	0	-75	8	233
Percent Change, Previous Qtr.	-3	-7	-29	1,045	0	25	-45	-92	-13	146
GREENLEE COUNTY	0	0	0	0	0	0	0	0	0	0
Percent Change, Previous Year	—	—	—	—	—	—	—	—	—	—
Percent Change, Previous Qtr.	—	—	—	—	—	—	—	—	—	—
LA PAZ COUNTY	41	390	7	1,140	1	474	19	48	68	2,052
Percent Change, Previous Year	215	1,200	250	883	—	—	-39	26	48	1,015
Percent Change, Previous Qtr.	-31	-17	40	71	-50	119	19	-11	-17	48
MARICOPA COUNTY	6,676	449,061	854	387,970	59	41,281	5,612	211,738	13,201	1,090,050
Percent Change, Previous Year	-18	-8	5	24	-25	27	-13	16	-15	7
Percent Change, Previous Qtr.	-16	-8	36	10	-18	-9	-25	8	-18	0
MOHAVE COUNTY	824	24,787	35	3,420	2	867	346	4,026	1,207	33,100
Percent Change, Previous Year	-17	24	-20	-76	-33	76	34	5	-7	-14
Percent Change, Previous Qtr.	-7	9	-19	-59	-60	171	-14	21	-10	-5
NAVAJO COUNTY	171	5,355	9	836	0	0	28	428	208	7,621
Percent Change, Previous Year	-34	-18	29	-14	—	—	-82	-53	-51	-21
Percent Change, Previous Qtr.	-46	-41	29	84	—	—	-46	60	-45	-33
PIMA COUNTY	1,883	79,455	79	31,208	8	728	1,985	43,320	3,933	154,711
Percent Change, Previous Year	-14	0	-29	-42	60	109	34	13	4	-10
Percent Change, Previous Qtr.	1	1	-8	-4	-57	-74	25	18	11	2
PINAL COUNTY	274	7,836	35	6,085	4	397	130	1,311	443	15,611
Percent Change, Previous Year	-40	-17	40	-25	33	36	-40	-54	-37	-25
Percent Change, Previous Qtr.	-15	-16	-13	-15	300	198	3	-76	-6	-29
SANTA CRUZ COUNTY	39	1,741	5	567	0	0	11	89	55	2,397
Percent Change, Previous Year	-13	-27	150	2,000	—	—	22	29	-2	-4
Percent Change, Previous Qtr.	-73	-79	150	2,081	—	—	-39	-20	-67	-73
YAVAPAI COUNTY	692	32,799	31	4,443	2	327	295	7,270	1,220	44,829
Percent Change, Previous Year	16	9	-47	-40	-71	-37	19	68	13	8
Percent Change, Previous Qtr.	15	9	-47	-23	0	99	16	168	12	15
YUMA COUNTY	232	7,307	33	4,299	3	869	156	1,877	423	14,172
Percent Change, Previous Year	1	13	-8	-44	-40	-28	5	-76	1	-40
Percent Change, Previous Qtr.	32	37	27	-14	50	328	-3	-88	16	-47
TOTAL, ARIZONA	12,249	639,934	1,168	447,378	81	45,488	8,977	276,867	22,475	1,408,667
Percent Change, Previous Year	-16	-6	1	7	-26	27	-4	9	-11	2
Percent Change, Previous Qtr.	-12	-6	16	7	-22	-9	-15	3	-12	-1

*Includes mobile homes

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Construction, an especially cyclical industry, is particularly important to a rapidly growing area such as metropolitan Phoenix. As a "basic" industry, its periodic swings have considerable impact – both positive and negative – on the rest of the economy. This cyclicality generally is undesirable.

Population growth in the Phoenix area also is highly cyclical, but reasonably predictable, based on economic conditions locally and elsewhere. In the longer term, general demographic factors, also foreseeable, play a role in determining the level of population growth.

The quantity of housing units absorbed correlates with the size of the population gain. If population growth can be predicted, then the general demand for new housing units also can be projected. Limiting construction to this level would reduce both the cyclicality and the resulting disequilibriums, such as high vacancy rates, that now plague the Phoenix metropolitan area.

CONSTRUCTION CYCLICALITY

The cyclicality of the construction industry is evident in Figure I. This sector accounts for 6 to 8 percent of local economic activity, depending on timing in the economic cycle, compared to not quite 5 percent nationally. Further, construction is a goods-producing industry, traditionally considered to be more important than service-support industries.

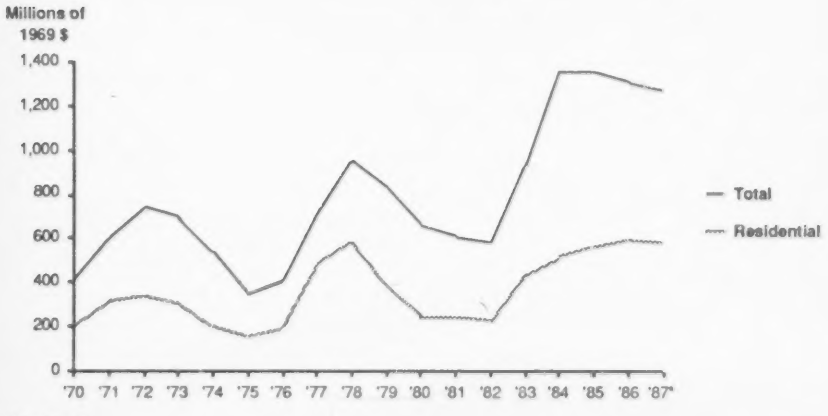
Thus, while construction benefits the metro Phoenix economy, its extreme cyclicality – more than that of any other industry – adds volatility and extremes to the general economy. On a micro level, its downsides contribute to unemployment, foreclosures and bankruptcies.

POPULATION GROWTH

Most of the Phoenix area's growing population results from net in-migration, which is highly cyclical. The majority of people who move to and from the area are young, relocating primarily for employment and economic reasons. The periodicity of these flows results from the cyclicality of the economy, in particular of new job creation.

Aside from this cyclicality, demographic factors help to determine the level of both net natural increase and net in-migration. While the excess of births over deaths follows an upward trend due to the growing size of the local population, the net number of people moving to the Valley has shown no trend since the late 1960s. The record inflows of 1984-86 resulted from short-term economic factors, such as poor economic conditions in resource-dependent states like Texas and the construction boom in the Phoenix area. After the late 1980s, the trend in net in-migration to the Phoenix area will be toward slightly lower levels (see the March 1986 and January 1987 issues of *Arizona Business*).

FIGURE I
INFLATION-ADJUSTED VALUE OF BUILDING PERMITS ISSUED
Maricopa County



*Projected

Source: Center for Business Research, College of Business, Arizona State University

RECENT ECONOMIC DEVELOPMENTS

The cyclicality and interplay of the construction industry, general economy and net in-migration are illustrated in the current economic cycle. Construction boomed from 1983 into 1986. At the same time, the economic growth rate easily exceeded its long-term average, and net in-migration reached record levels.

For some types of construction – apartments in particular – a 1981 tax law change fueled spectacular growth, with high vacancy rates resulting. The large number of vacancies, in conjunction with another tax change, finally caused construction activity to slow during 1986. After rising rapidly during 1983-85, construction employment began to decline in spring 1986.

The effects of laid-off construction workers and shrinking purchases of construction materials rippled through the economy during 1986. By the fourth quarter, new job creation in other industries had slowed sharply. Since people continued to move to the area, the unemployment rate jumped.

During the next few months, news of the scarcity of jobs and high unemployment rate spread; at the same time, construction workers were leaving. Net in-migration plunged from more than 15,000 people per quarter to a subpar level of 6,000 people by second quarter 1987.

Other factors contributed to the slower economy, but swings in the construction industry were the primary cause. Whereas growth of the national economy has been relatively steady at just below 3 percent per year – the long-term average – since late 1984, the local economy continued to expand at above average rates until late 1986. Growth then fell below the 5.7 percent norm, though it remained stronger than the national rate.

Thus, the construction industry's cyclicality helped the local economy to continue its rapid expansion into early 1986. By late 1986, however, the same industry helped push the economy into a "growth recession." Meanwhile, the construction boom has created high vacancy rates that will be difficult to resolve, slowing future growth of both the industry and the local economy.

HOUSING CONSTRUCTION AND VACANCIES

Despite record levels of population growth and housing absorption, the overall housing vacancy rate has increased throughout the current economic expansion because of extraordinarily high levels of housing construction. Most significant was the number of apartment units constructed, which exceeded the number of single family homes for the first time (see Figure II).

According to the Phoenix Metropolitan Housing Study, the single family housing market has stayed in equilibrium throughout the current expansion, maintaining its typical 1 percent vacancy rate. Vacancies of townhouses dropped during the expansion, to a historically low 2 percent. In contrast, apartment vacancies doubled, from the typical 6 to 7 percent to a record 13 percent. The overall vacancy rate rose from its average 3 percent to a record 5 percent, representing more than 40,000 vacant housing units.

Given current levels of population growth, it would take more than one year to absorb these units, even if no additional units were constructed. These numbers imply that an excess of 15,000 to 20,000 housing units were constructed during the expansion, virtually all of them apartments. This overbuilding occurred despite record levels of multifamily unit absorption.

These absorption figures raise significant questions. Traditionally, Americans have selected single family homes as their housing of choice. Yet, from mid-1983 through mid-1986 more apartment units were absorbed than single family homes in the Phoenix area. A change in housing preferences seems unlikely. Rather, temporary market conditions probably caused this phenomenon: a wide selection of new apartments, filled with amenities and offered at reduced rents, at a time of steady or rising mortgage payments. Presumably, many apartment dwellers are young professionals since this is the largest group of migrants. A key issue for new home builders and apartment owners is how many of these renters will move to single family homes – and how soon.

Lower absorption of apartment units during 1986-87, coupled with an increase in the number of homes sold at a time of declining net in-migration, suggests that some movement from apartments to single family homes already has occurred. This movement probably was stimulated by improved single family housing affordability.

SHORT-TERM OUTLOOK

Construction of new housing units has declined, but so have population inflows and housing absorption. Population gains dropped from a high of 88,000 in fiscal 1985-86 to 68,000 in 1986-87; the projected level for 1987-88 is 62,000. New housing units authorized declined more, from 57,000 in 1983-84 to 31,000 in 1986-87 and a projected 26,000 in 1987-88. In particular, construction and absorption of multifamily units have plummeted.

Given these short-term projections and the assumption that housing absorption will continue its typical relationship with population gains, the overall housing vacancy rate should peak this winter; the number of new housing units completed should be less than the number absorbed. However, improvement during the rest of 1988 is likely to be modest. For example, by the end of the year, apartment vacancies probably will decline only to 12 percent, still higher than at anytime prior to 1986. (This forecast assumes stronger apartment absorption than experienced during the first half of 1987 and authorization of approximately 7,500 additional multifamily units during 1988.)

LONG-TERM OUTLOOK

Two non-economic issues complicate the apartment vacancy question. The first is the aging of the American population. Young people are a primary absorber of apartment units, but this age group is shrinking nationally as the "baby-bust" generation replaces the "baby-boom" era. Second, as discussed above, an unusual number of apartment dwellers may soon be moving into single family homes.

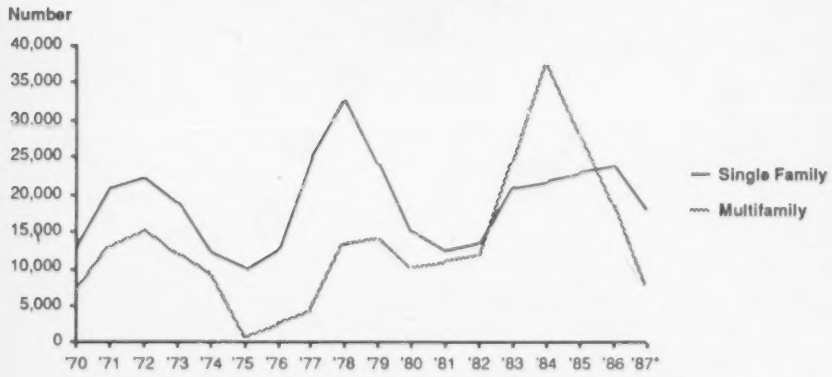
Economically, the high vacancy rates in apartments and other types of commercial buildings should reduce construction activity during the next few years. This drag on the economy, coupled with national and international economic conditions, will result in a local economy hard-pressed to exceed its average growth rate through 1991. Should a recession occur, as seems likely by 1989 or 1990, total economic growth through 1991 will be subpar.

Thus, it is relatively optimistic to expect net in-migration and housing absorption to match their typical levels through 1991. Even if they do, given the 15,000 or more excess housing units currently marketed, construction of new housing units can total only approximately 28,000 per year, if the overall housing vacancy rate is to return to typical levels by the end of 1991.

Since high housing vacancy rates are limited to the apartment sector and since absorption of apartment units probably will be subpar during the next few years, very few apartment units will need to be constructed – less than in any year since 1970 except 1974-77. Even then, relatively high apartment vacancy rates are likely to persist for years.

– **Tom R. Rex**
Research Manager

FIGURE II
Housing Units Authorized
Maricopa County



*Projected

Source: Center for Business Research, College of Business, Arizona State University

Inflation in the Phoenix metropolitan area totaled only 18.2 percent during the five years following the end of the last recession in 1982, much less than the rate during the expansion of the late 1970s (see Figure I).

This overall (all-items) inflation rate represents the average rate for all households in the Phoenix area. Theoretically, the rate for any individual household could be much different, based on particular buying patterns. However, during the last five years, the variation in inflation by category of the metropolitan Phoenix CPI has been relatively mild and sometimes occurred in staple items, purchased by nearly all consumers. Thus, individual buying patterns had little effect on the inflation rate experienced by most consumers during the last five years.

1982-87 INFLATION

Inflation in the three largest categories of the CPI – food and beverages, housing, and transportation – was not much different from the all-items rate (see Figure II). The relatively low rate for housing, the largest category, was offset by much higher rates in some of the less important categories, especially medical care.

Inflation in the food and beverages category matched the all-items figure as did the major subcategories, food at home and food away from home. Among the five groups of the food-at-home category, however, more variation occurred (see Table 1).

Housing costs climbed only 11 percent, with subpar gains in each of the major subcategories: shelter, fuel and other utilities, and household furnishings and operations. Piped gas rates were no higher in 1987 than in 1982, and charges for long-distance telephone calls declined, though basic telephone charges went up at nearly the average rate. Big increases occurred, however, in local services: water and sewerage maintenance and garbage/trash collection.

Transportation cost increases differed widely by subcategory. Within the private transportation category, which rose 20 percent, inflation varied from 107 percent for insurance to -27 percent for finance charges. Thus, in terms of monthly payments, the purchase of an automobile on credit was not much more expensive in 1987 than in 1982, despite jumps in new and used car prices.

In the medical care, entertainment and other goods and services categories, prices advanced significantly in each subcategory. Medical care inflation totaled 55 percent despite relatively small advances in the last few quarters. Much of the total gain resulted from very high inflation in health care insurance premiums in 1983-84.

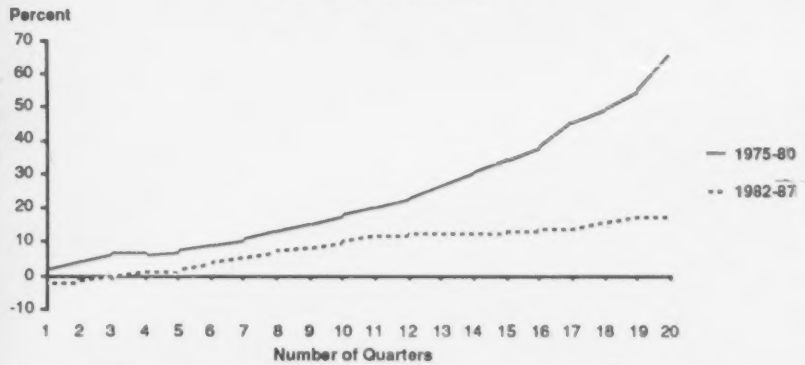
INDIVIDUAL INFLATION RATES

No household is likely to purchase goods and services in the exact proportions assumed in the CPI. In a few cases, the spending pattern may be sharply different, causing an inflation rate significantly different from the official rate.

Such variation was more common in the late 1970s when home ownership costs were advancing at more than 20 percent per year. Since the last recession, inflation has been much lower and not as variable. As a result, the cumulative 1982-87 inflation rate for the vast majority of households was in a narrow range of approximately 15 to 21 percent. To be on the high or low end of the range, a household would have to exercise rather unusual buying habits.

To see how a higher inflation rate might have been realized, assume an individual owned an all-electric home that was completely furnished prior to 1982. The individual did not

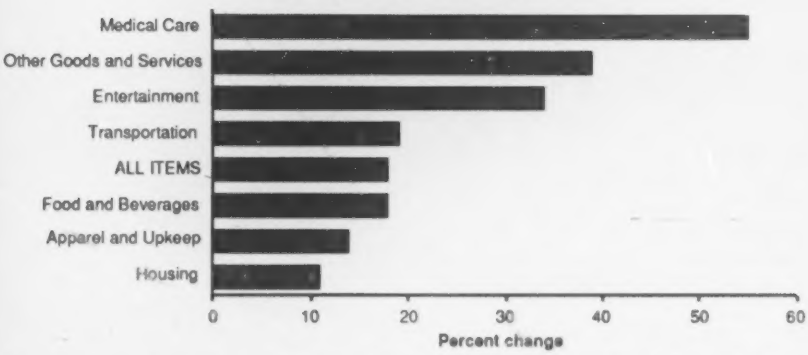
FIGURE I
CUMULATIVE INFLATION, 1975-80 AND 1982-87
Metropolitan Phoenix CPI



Note: Quarters span a five-year (20-quarter) period, beginning first quarter 1975 (solid line) and third quarter 1982 (dotted line).

Source: Center for Business Research, College of Business, Arizona State University

FIGURE II
INFLATION IN MAJOR CATEGORIES
Third Quarter 1982 through Third Quarter 1987
Metropolitan Phoenix CPI



Source: Center for Business Research, College of Business, Arizona State University; in cosponsorship with Valley National Bank.

phone calls, or use public transportation. Even then, this hypothetical 1982-87 inflation rate would not be 21 percent. To get a much higher rate, an individual would have to have consumed very large quantities of medical care or other high-inflation items.

For a lower inflation rate, assume a renter who did not own a car, smoke, go to school, eat fresh fruits and vegetables or participate in entertainment activities. This hypothetical case would result in a 15 percent inflation rate. To get a much lower rate, the assumption must be made that the individual purchased few medical care goods or services. However, just because he or she did not go to a hospital between 1982 and 1987 does not mean that these cost increases are irrelevant. If hospital services are now required, the individual will bear the full brunt of five years' worth of inflation. Categories in which a household may eventually purchase a good or service should not be excluded from their calculated inflation rate.

Thus, while the concept is valid that the CPI may not be an accurate measure of a specific household's inflation rate, in reality, few households have experienced a much variant rate since the last recession.

– Tom R. Rex
Research Manager

METROPOLITAN PHOENIX CONSUMER PRICE INDEX
Selected Categories, Third Quarter 1982 - Third Quarter 1987

Category	Percent Change	1987 Relative Importance
ALL ITEMS	18	100.0
Food and Beverages	18	18.7
Food at Home	18	11.3
Cereal and Bakery Products	31	1.5
Meats, Poultry, Fish, and Eggs	6	3.3
Dairy Products	11	1.5
Fruits and Vegetables	34	1.9
Other Food at Home	18	3.1
Food Away from Home	18	6.1
Alcoholic Beverages	24	1.3
Housing	11	39.5
Shelter	10	25.8
Rent of Dwelling	16	7.8
Fuel and Other Utilities	15	6.4
Electricity	11	2.3
Piped Gas	0	1.7
Other	21	2.1
Household Furnishings/Operations	10	7.2
Apparel and Upkeep	14	4.8
Transportation	19	21.2
Private Transportation	20	19.6
New Car	34	2.7
Used Car	29	4.5
Motor Fuels	20	5.5
Vehicle Parts and Equipment	-1	0.7
Vehicle Maintenance and Repair	29	2.4
Vehicle Insurance	107	2.5
Vehicle Finance Charges	-27	0.6
Public Transportation	9	1.6
Medical Care	55	6.9
Professional Services	35	3.0
Hospital Services	44	0.5
Health Insurance	83	2.4
Entertainment	34	4.6
Other Goods and Services	39	4.3

Source: Center for Business Research, College of Business, Arizona State University; in cosponsorship with Valley National Bank.

Arizona Industrial Growth Varies Substantially

While some Arizona industries grew by more than two-thirds between 1982 and 1986, others declined. Business services and real estate led the growth during this post-recessionary period.

The findings in this article are based on revised personal income and employment data released by the U.S. Department of Commerce, Bureau of Economic Analysis.

OVERALL MEASURES

Arizona personal income reached $44.7 billion in 1986, 1.3 percent of the U.S. total. On a per capita basis, the state's personal income ($13,474) was only 92 percent of the national average. Gains in both Arizona and U.S. personal income since 1983 (not inflation-adjusted) are shown in Figure I. Arizona's more rapid personal income growth is due primarily to the state's large population gains.

Earnings by place of work – wages and salaries, other labor income and proprietors' income – made up 72 percent of Arizona's personal income in 1986. Transfer payments and dividends, interest and rent accounted for the remainder. Of these categories, proprietors' income increased most swiftly between 1982 and 1986 (77 percent), and transfer payments advanced least rapidly (37 percent). Earnings by place of work rose 53 percent, and total personal income was up 50 percent.

Total employment in Arizona reached 1.69 million in 1986, up 30 percent since 1982. Eighty-five percent of the employed were wage and salary workers; the remainder were proprietors. Arizona's rate of growth more than doubled the national average in each year from 1983 through 1986 (see Figure II). The jump in the number of proprietors (42 percent) exceeded the increase in wage and salary workers (28 percent).

MAJOR INDUSTRIES

Services, Arizona's largest industry in 1986, accounted for 23 percent of personal income and 27 percent of total employment. Depending on the measure used (personal income or employment), trade, government and manufacturing ranked next largest. Compared to their U.S. industrial counterparts, Arizona's construction industry was much larger, and its manufacturing industry was much smaller.

During the 1983-86 expansionary period, Arizona growth was most rapid in the finance, insurance and

struction industry, followed by the services industry. The mining industry declined, and transportation, communications and public utilities (TCPU), agriculture, and government expanded relatively slowly. Compared to the national average, Arizona's manufacturing and construction industries stood out as fast growers. In contrast, Arizona's mining industry declined more than its national counterpart, and the state's agriculture industry expanded more slowly.

SECONDARY INDUSTRIES

Several Arizona industries provide a much smaller share of employment and personal income than their national counterparts: oil and gas mining; non-durable manufacturing as a whole, as well as several of its components; some types of furniture, fabricated metals, and motor vehicles; and educational services. In contrast, relatively large industries in Arizona include metal mining; some construction sectors, including heavy construction and special trades; manufacturing of electrical equipment and transportation equipment other than motor vehicles; real estate; and lodging services.

Compared to other Arizona industries, fast growers from 1982 through 1986 include the construction industries of general building and special trades; manufacturing of wood products, transportation equipment other than motor vehicles, and stone, clay and glass products; real estate; business services; and auto repair and services. Declining or slow-growing industries include farming; metal mining; manufacturing of food products, non-electrical machinery chandise retail stores; communications; and the military.

Growth rates were particularly high, in comparison to their national counterparts, in heavy construction and in several manufacturing industries, including instruments and stone, clay and glass products. In several industries, growth was particularly slow, or declines were greater than nationally: farming, metal mining, communication, general merchandise retail stores, and the military.

Growth between 1982 and 1986 did not necessarily match the pattern over a longer span of time, e.g., 1970-86. Construction, for example, advanced at only an average rate over this longer time span. The rapid growth between 1982 and 1986 was a function of the industry's cyclicality; the declines of 1987 will drop construction from the ranks of the leaders during the current expansion. Despite recent declines, communication's growth for the long term is not far below average.

SUMMARY

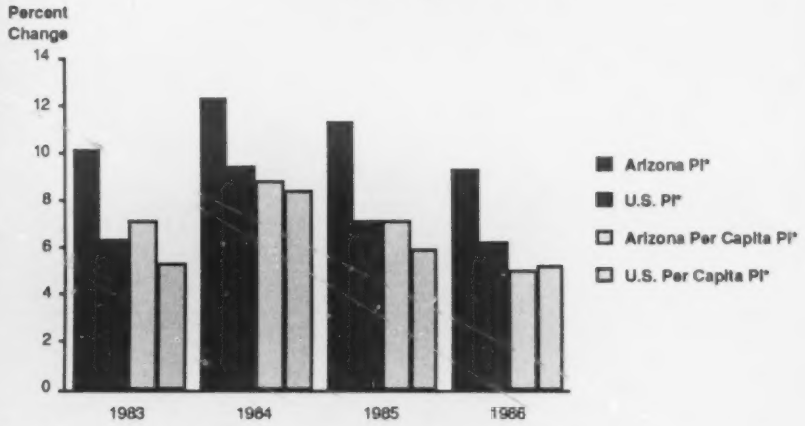
No Arizona industry that grew rapidly between 1982 and 1986, when compared to other Arizona industries, also surpassed its national counterpart's growth rate. Manufacturing of stone, clay and glass products is an exception, but this industry is responsible for only 0.5 percent of Arizona's employment and personal income. Business services and real estate expanded the fastest, but they mirrored the national pattern. Arizona's manufacturing industry grew much faster than its national counterpart, but slower than the average Arizona industry.

On the negative side, farming, mining and communications stood out as declining industries, shrinking faster – and already smaller – than their national counterparts. General merchandise retail stores and the military both grew more slowly than their national counterparts and the average Arizona industry.

These findings verify that the state has a diversified economy, not especially dependent on any one industry. Arizona's economy generally follows the national pattern, with the same high-growth industries, all service-related.

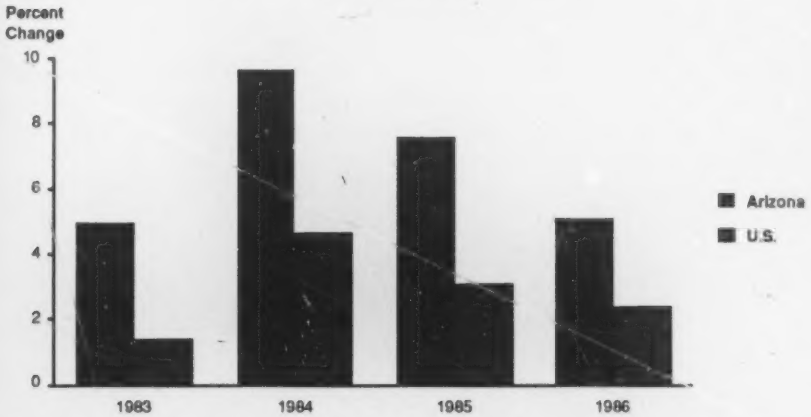
– Tom R. Rex
Research Manager

FIGURE I
GROWTH IN PERSONAL INCOME



*PI = Personal Income

FIGURE II
GROWTH IN TOTAL EMPLOYMENT



Source (Figures I and II): U.S. Department of Commerce, Bureau of Economic Analysis

The Arizona economy posted another month of solid growth in November. All indicators were positive, as in the previous months of 1987. Lead times lengthened, inventory increased, and new orders grew at a robust pace. The overall growth rate was only slightly lower than in October, showing that the Arizona economy survived the declines in the financial market nicely.

While the economy may not yet have felt the full effect of the stock market plunge, the year will end on a strong note. The acceleration in growth probably has been diminished somewhat, but continued advances in new orders, inventories, and employment will enable the economy to finish its fifth year of solid, sustained growth and to start 1988 from a position of strength.

PRICES

Prices paid for purchased items went up in November at a somewhat higher rate than in October – the second largest advance of 1987. The increase rate in each month of 1987 has been greater than in all but one month of 1986. While inflationary pressures are building, the increase rate is not accelerating at an uncontrolled pace.

DELIVERY TIME

Delivery time on vendor shipments continued to stretch, but at a slightly lower rate than in September or October. This trend signals that vendor backlogs remain healthy.

INVENTORY LEVELS

Inventory levels of purchased materials rose at a rate almost three times greater than in October. Inventory has grown in all but one month of 1987. Firms are building the stocks needed to accommodate the increased flow of business – a key factor stimulating growth.

NEW ORDERS

New orders accelerated in November at the same strong rate as in October. Growth in new orders followed a consistent trend over the first 11 months of 1987, suggesting a further production hike in December.

PRODUCTION

Production advanced again, but at a rate well below that of the previous month and the lowest since December 1986. This slower growth rate is surprising, in light of the strong new order picture. It may have been a reaction to the decline in the financial markets, as management anticipated slower demand that did not materialize.

EMPLOYMENT

Employment was up in November, but the pace was not as brisk as in October and lower than in all but two months (January and September) of 1987. November was the 11th consecutive month of employment growth.

PURCHASES

Purchases of materials and supplies rose at a rate almost identical with the previous month.

– Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

Arizona Purchasing Survey

Now in its 26th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data gathered at the close of each month from members of the purchasing management associations of Arizona and southern Arizona. They indicate the direction - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
NOVEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (November compared to October)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	44	53	3
Delivery time from vendors	42	49	9
Purchased materials inventory level	33	42	25
New orders received	43	36	21
Production	32	43	25
Employment	22	66	12
Purchases	43	35	22

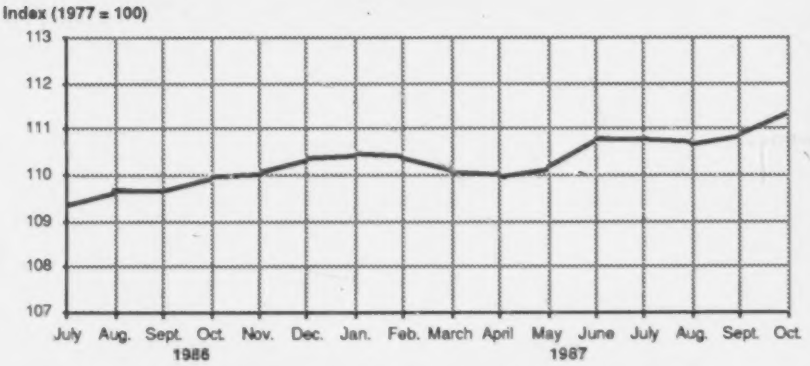
Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona

The Arizona Index of Leading Economic Indicators gained .5 percent in October, bringing it to a new high of 111.4 and tying June's record increase for 1987 (see Figure I).

Seven of the 10 components rose in October, including those associated with employment. Hours worked in Arizona manufacturing firms bounced back from a September decline – the largest positive influence on the index. Seasonally adjusted unemployment claims dipped, and employment levels were up in a survey of Arizona purchasing managers. Production reported by the purchasing managers also accelerated, but seasonally adjusted new orders, inventories and delivery times negatively influenced the index. Residential building permits gained in value for the second consecutive month, after a large drop in August. Although construction employment in Arizona declined through most of 1987, the value of residential building permits rose in four of the last six months.

Two national indicators, the money supply and prices of sensitive materials, also increased.

FIGURE I
ARIZONA INDEX OF LEADING ECONOMIC INDICATORS



Source: Economic Outlook Center, College of Business, Arizona State University

OUTLOOK

The national index of leading economic indicators declined 0.2 percent in October, largely due to the sharp drop in stock prices, a component not included in the Arizona index. The national index would have increased nearly 1 percent without the influence of the stock market, an indication that momentum remains in the national economy. The probability of recession in the next six months is low.

After a flat period in the summer, the Arizona index resumed its growth pattern, a sign the local economy is not immediately imperiled by the uncertainty in national financial markets. The vital signs related to real factors, such as production and employment, remain favorable but not as vigorous as in the recent past.

At this point in the business cycle, many analysts are awaiting further data before offering specific forecasts for 1988. The drop in the international value of the dollar has yet to impact Arizona manufacturing.

TABLE 1
NET CONTRIBUTION OF INDIVIDUAL COMPONENTS TO THE ARIZONA INDEX OF LEADING ECONOMIC INDICATORS

	Net Contribution+			
	July	*Aug.*	*Sept.*	*Oct.*
Delivery Time*	-.09	.07	.05	-.01
Inventory Levels*	-.08	.04	.03	-.06
New Orders*	-.10	.09	-.02	-.01
Production*	-.07	.13	-.05	.02
Employment*	.03	-.02	-.04	.07
Residential Building Permits	.27	-.68	.41	.13
Unemployment Insurance Claims	-.01	.16	-.10	.17
Average Workweek, Manufacturing	.02	.12	-.25	.09
Money Supply	-.01	.02	.14	.09
Change in Sensitive Materials Prices	.10	-.03	-.05	.01
OVERALL INDEX CHANGE (%)	0	-.1	.1	.5

+The net contribution of each component is calculated by multiplying the monthly percent change in its index by its relative importance.

*Based on indicators from the purchasing management associations of Arizona and southern Arizona.

Source: Economic Outlook Center, College of Business, Arizona State University

Employment in manufacturing in October was 400 jobs less than 12 months before.

Evidence continues to mount that population flows into the state have slowed relative to even a few months ago. As a result, both the services and the finance, insurance, and real estate sectors are expanding at a much slower rate than in years past.

Tallies on the year-end strength of retailing are not yet available, and the heart of the tourist season still lies ahead. Therefore, the impact of the stock market decline will not be fully discernible for some time.

The EOC outlook, based on the leading index's performance and other available data, is identical to that of the past several quarters: slow economic growth as we move into 1988.

– **Lee R. McPheters,** *Director Economic Outlook Center*

ARIZONA ECONOMIC INDICATORS

	Month or Quarter	Value	Percent Change from Previous Period	Percent Change from Year Ago	Year-to-Date Value	Year-to-Date Percent Change from Year Ago
GROSS STATE PRODUCT						
(In Billions of Dollars, at Annual Rate)						
Arizona - Current Dollars	2nd Qtr.	56.162	1.3	8.1	NA	NA
Arizona - 1982 Dollars	2nd Qtr.	47.609	-0.2	4.0	NA	NA
CONSUMER PRICE INDEX (1977 = 100)						
Metropolitan Phoenix	3rd Qtr.	201.7	0.5	4.1	NA	NA
INDEX OF LEADING ECONOMIC INDICATORS (1977 = 100)						
Arizona	Oct.	111.4	0.5	1.3	NA	NA
BUILDING PERMITS						
(Total Dollar Value in Thousands)						
Maricopa County	Oct.	355,434	-10	7	3,426,632	0
Pima County	Oct.	40,077	-34	-47	507,810	-29
Balance of State	Oct.	55,712	-17	-28	544,001	-6
Arizona	Oct.	451,223	-14	-6	4,478,443	-5
TOTAL HOUSING UNITS AUTHORIZED						
Maricopa County	Oct.	2,453	-23	-13	25,099	-37
Pima County	Oct.	360	-54	-75	5,693	-46
Balance of State	Oct.	977	3	2	8,592	-20
Arizona	Oct.	3,790	-23	-28	39,384	-36
HOME SALES						
Maricopa County - Number	Oct.	4,220	-2	-7	51,400	-1
Maricopa County - Median Price	Oct.	82,000	-1.0	4.1	80,000	2.6
HOUSING AFFORDABILITY INDEXES						
Metropolitan Phoenix - New Homes	3rd Qtr.	92	-5.2	-4.2	NA	NA
Metropolitan Phoenix - Resale Homes	3rd Qtr.	109	-1.8	1.9	NA	NA
MORTGAGE INTEREST RATES						
(Conventional, 30-year, Fixed-rate)						
Maricopa County	Nov.	10.7	-4.5	11.5	NA	NA
POPULATION ESTIMATES						
(In Thousands)						
Maricopa County	3rd Qtr.	1,984	0.7	3.2	NA	NA
Arizona	3rd Qtr.	3,460	0.6	2.9	NA	NA
ELECTRICAL POWER SALES						
(In Millions of Kilowatt Hours)						
Arizona	Oct.	3,003	-10.6	15.2	32,775	7.1

NA = Not Applicable

Source: Center for Business Research, College of Business, Arizona State University

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